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Vascular anatomy of Ophioglossaceae.—LANG²⁴ has been investigating the vascular anatomy of the three genera of Ophioglossaceae, and in advance of the publication of the full papers he has made a brief statement of his conclusions. It is becoming increasingly evident that the Ophioglossaceae are true ferns, and this return to the earlier views as to their relationships is emphasized by the present paper. The critical study of the anatomy of the stem and leaf trace led to the conclusion that there is "an essential similarity in plan of stelar construction between the Ophioglossaceae and the Coenopterideae" (Botryopterideae and Zygopterideae). There are also features in common with the Osmundaceae and Hymenophyllaceae. When one considers the gaps in our knowledge of the extinct forms, it is safer to suggest relationship in a general way than to be too specific, and this attitude LANG has taken. He is convinced, further, that in the Ophioglossaceae a protostele has developed intrastelar pith.—J. M. C.

Vegetative reproduction in Angiopteris.—It has been known for a long time that the leaf stalk of *Angiopteris* is differentiated into two regions, a basal portion bearing stipules, and a midrib bearing pinnae, the two regions being separated by an abscission layer. From material in the garden and from a study of large specimens in the forest, VAN LEEUWEN²⁵ records the following observations: the foliage leaf persists for about two or three years and then breaks off at the abscission layer, the leaf base remaining many years longer; after the leaf has fallen, four resting buds appear on the leaf base, and when it finally falls off, one or more of the buds begin to grow and many develop into new plants.

RACIBORSKI first noticed such buds in *Angiopteris*; the present account gives additional information from plants growing under natural conditions.—CHARLES J. CHAMBERLAIN.

Fossil prothallia.—MCLEAN²⁶ has added to our meager knowledge of paleozoic prothallia by describing two female prothallia from the Lower Coal Measures of England. One is that of the classic *Lagenostoma Lomaxii*, and it resembles closely the female gametophyte of modern gymnosperms, the radial arrangement of the tissues suggesting centripetal growth by "alveoli." This radial arrangement is lacking in such a gametophyte as that of *Lepidocarpon*. The other gametophyte is that of *Bothrodendron*, one of the lycopods. It is extremely well preserved, and strongly resembles the emergent and

²⁴ LANG, WILLIAM H., On the interpretation of the vascular anatomy of the Ophioglossaceae. Mem. and Proc. Manchester Lit. and Phil. Soc. **56**: no. 12 (pp. 14). figs. 6. 1912.

²⁵ VAN LEEUWEN, W. DOCTERS, Über die vegetative Vermehrung von *Angiopteris evecta* Hoffm. Ann. Jard. Bot. Buitenzorg **10**: 202-209. pl. 18. 1912.

²⁶ MCLEAN, R. C., Two fossil prothalli from the Lower Coal Measures. New Phytol. **11**: 305-318. figs. 2. pls. 5, 6. 1912.